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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,945	12/28/2005	Lechong Chen	42P18502	6166

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EXAMINER
TRUONG, LECHI

ART UNIT	PAPER NUMBER
2194	

MAIL DATE	DELIVERY MODE
07/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>12/28/2005</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) <u>1-27</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-27</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

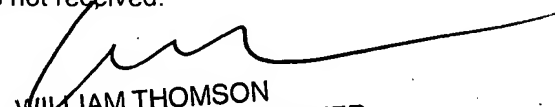8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/28/2005</u>.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

DETAILED ACTION

1.　　　Claims 1-27 are presented for the examination.

Claim Objections

3.　　　Claims 3, 18 and 26 are objected to because of the following informalities:

The periods are missed at the end of the claims 3, 18 and 25.　Appropriate correction is

required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or
> any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and
> requirements of this title.

2.　　　Claims 22-27 are rejected as non-statutory because they are not tangibly embodied.

Claims 22-27 define a computer readable medium in the preamble.　However, the

specification discloses this medium to be a computer data signal embodied in a carrier wave.

Carrier waves are not the tangible medium; therefore, claims 22-27 are non-statutory.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains.　Patentability shall not be negatived by the
> manner in which the invention was made.

3.   **Claims 1, 3, 4, 7-10, 12-14, 16-18, 22-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chintalapati et la (US. 6, 988,140 B2) in view of Sugahara et al (US 6,684281 B1).**

As to claim 1, Chintalalpati teaches the invention substantially as claimed including: setting a timer for a plurality of time intervals (a predetermined time interval has elapsed, X seconds, col 8, ln 43-45), calling a polling function (the polling system call, col 8, ln 46-50/ col 12, ln 32-35/ln 42-50/ ln 55-57), a polling function (a poll request, col 8,ln 39-45), a polling function at at the end of each of the plurality of time intervals (col 8, ln 39-45), the polling function being performed by a first processor(col 20, ln 7-10), a positive result(active, col 5, ln 10/ col 8, ln 1-7) , if the polling function results in a positive result, processing the results of the polling function with a second processing(col 5, ln 1-10, col 8, ln 1-7).

Chintalapati does not explicitly teach the second processor. However, Sugahara teaches the second processor (the processor receiving the interrupt message ... by reading the interrupt message, col 1, ln 38-48).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the teaching of Chintalapati to incorporate the feature of the second processor because this allows the processor to send a message over the network to another processor without going through the aforementioned proceduces.

As to claim 3, Chintalapati teaches the first processor is an application processor (col 15, ln 50-51).

As to claim 4, Chintalapati teachers declaring the first processor to be dedicated to the polling function (col 20, ln 7-9).

As to claim 7, Chintalapati teaches asynchronous event handling for the first processor and the second processor (col 4, ln 29-33).

As to claim 8, it is an apparatus claim of claim 1; therefore, it is rejected for the same reason as claim 1 above.

As to claim 9, Chintalapati teaches the performance of the polling operation overlaps at least in part with the performance of the normal processing operation (col 5, ln 3-10).

As to claim 10, Chintalapati teaches the first processor is dedicated to event handling (col 7, ln 55-58).

As to claim 12, Sugahara teaches the first processor and the second processor is separate physical processors (col 2, ln 7-10).

As to claim 13, Sugahara teaches the first processor and the second processor are logical processors in a single physical processor (Fig. 2).

As to claim 14, it is an apparatus claim of claim 1; therefore, it is rejected for the same reason as claim 1 above. In additional, Chintalapati teaches event (col 4, ln 62-67).

As to claims 16, 17, they are apparatus claims of claims 3, 6; therefore, they are rejected for the same reasons as claims 3, 6 above.

As to claim 18, Chintalapati teaches event mechanism for the computer system (col 8, ln 38-45).

As to claims 22, 24-27, they are apparatus claims of claims 1, 3, 4, and 9; therefore, they are rejected for the same reasons as claims 1, 3, 4, and 9 above.

As to claim 23, Chintalapati teaches the polling function comprises polling a computer interface(col 8, ln 1-3).

4. **Claims 2, 11 rejected under 35 U.S.C. 103(a) as being unpatentable over Chintalapati et la (US. 6, 988,140 B2) in view of Sugahara et al (US 6,684281 B1), as applied to claim 1 above, and further in view of Booth (US. Patent 6,065073).**

As to claim 2, Chintalapati and Sugahara do not teach a network stack. However, Booth teaches a network stack (a full range of data communications among disparate data equipment and networks, the International Standards Organization (IOS), col 2, ln 9-12).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the teaching of Chintalapati and Sugahara to incorporate the feature of a network stack because this allows standardized procedures to be defined for enabling the interconnection and subsequent effective exchange of information between the systems.

As to claim 11, it is an apparatus claim of claim 2; therefore, it is rejected for the same reason as claim 2 above.

5. **Claims 5, 15 rejected under 35 U.S.C. 103(a) as being unpatentable over Chintalapati et la (US. 6, 988,140 B2) in view of Sugahara et al (US 6,684281 B1), as applied to claim 1 above, and further in view Karnik et al (US. 5,724527).**

As to claim 5, Chintalapati and Sugahara do not teach bootstrap processor. However, Morris teaches bootstrap processor (the bootstrap processor, col 3, ln 1-3).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the teaching of Chintalapati and Sugahara to incorporate the feature bootstrap processor because this allows different processors to be dedicated to perform predetermined functions or tasks faster and more efficiently.

As to claim 15, it is an apparatus claim of claim 5; therefore, it is rejected for the same reason as claim 5 above.

6. **Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chintalapati et la (US. 6, 988,140 B2) in view of Sugahara et al (US 6,684281 B1), as applied to claim 1 above, and further in view Yamanoto (Facsimile equipment).**

As to claim 6, Chintalapati teaches a normal execution thread (col 8, ln 1-6).

Chintalapati and Sugahara do not processing in parallel with polling function. Yamanoto teaches processing in parallel with polling function (a polling setting memory 11b for storing a multipolling reception stard data and time and a group number and a signal processing, Sec: Constitution, ln 4-7/ executing the input processing of the succeeding multipolling start data and time and the group number in parallel with polling reception processing, page 2, ln 1-4).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the teaching of Chintalapati and Sugahara to incorporate the feature of

processing in parallel with polling function because this provides a possibility to set up the reservation of the succeeding multipolling immediately after the start of multipolling.

7.   **Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chintalapati et la (US. 6, 988,140 B2) in view of Sugahara et al (US 6,684281 B1), as applied to claim 1 above, and further in view of Yang et al (US. Patent 7,003610 B2).**

As to claim 19, Chintalapati and Sugahara do not explicitly teach a single thread. However, Yang teache a single thread (single thread, col 3, ln 37-40).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the teaching of Chintalapati and Sugahara to incorporate the feature of a single thread because this provides the servicing for all write requests received via interrupts in a single thread with limited memory space and avoids shared resource conflicts.

8.   **Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chintalapati et la (US. 6, 988,140 B2) in view of Sugahara et al (US 6,684281 B1), as applied to claim 1 above, and further in view of Hokenek et al (US 6,971, 103 B2).**

As to claim 20, Chintalapati and Sugahara do not teach a multi-processor system. However, Hokenek teaches multi-processor(Multi-proccessor, col 1, ln 30-33).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the teaching of Chintalapati and Sugahara to incorporate the feature of a

multi-processor because this provides a low-latency, low-everhead mechanism for delivering and

servicing cross thread interrupts in a multithreaded processors.

As to claim 21, Hokenek teaches a hyper-threaded system(col 1, ln 63-67).
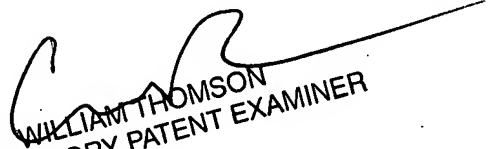
Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to LeChi Truong whose telephone number is (571) 272 3767. The

examiner can normally be reached on 8 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Thomson, William can be reached on (571) 272 3718. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR of Public PAIP. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIP

system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

LeChi Truong

April 12, 2007

WILLIAM THOMSON
UPERVISORY PATENT EXAMINER